IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Paul L. Burn et al

Serial No. 10/525,616

Filed: February 25, 2005

For: BLENDED DENDRIMERS

DECLARATION

I, Professor Paul L. Burn, do hereby declare and state as follows:

1. I am an Australian citizen, of the University of Queensland, Centre for Organic Photonics & Electronics, School of Molecular & Microbial Sciences Chemistry Building, St Lucia, Queensland, 4072, Australia. I presently have the position of Australian Research Council Federation Fellow. I have been working in the field of polymers and dendrimers and their use in opto-electronic device applications since 1989. My publications in this field are shown in the attached Exhibit 1.

2. I am one of the inventors named for US Patent Application No. 10/525,616 ("the present application").

3. The work described in the present application concerns compositions comprising a mixture of at least two different dendrimers and to their uses in opto-electronic devices. I understand that the US Patent Office Examiner has objected that the supplemental data, on page 11 of the Applicant's response dated September 26, 2008, are insufficient to establish an unexpected result and to overcome an obviousness rejection because they were filed as part of the attorney arguments rather than via a declaration. A further copy of that same data is attached herewith as Exhibit 2. I have been asked to comment on the data.

4. The data shown in the table attached as Exhibit 2 are the results of measurements of the maximum luminous efficiency (cd/A), power efficiency (lm/W), brightness (cd/m^2) and maximum observed brightness (cd/m^2) of the devices described in the Example and Comparative Examples of the specification of the present application. The column headed "Example" gives the results for the device described in Example 1 on page 16 of the present application, having the configuration ITO/CBP:(**G1**:**G2**, 1:2), 80:20 wt%/BCP 60nm/LiF 1.2nm/Al 100nm. The column in the table headed "Comparative Example 1" gives the results for the first device described in the Comparative Example on pages 16-17 of the present application, having the configuration ITO/**G1 4**:CBP/BCP/LiF/Al . The column in the table headed "Comparative Example 2" gives the results for the second device described in the Comparative Example of the present application, having the configuration ITO/**G2 5**:CBP/BCP (60nm)/LiF(1.2nm)/Al (100nm).

5. An aim of the invention was to provide devices having improved efficiency. Accordingly, the most relevant rows of the table in Exhibit 2 are those relating to the maximum luminous efficiency and the power efficiency. Efficiency of devices is important because it impacts on, *inter alia*, battery life, heat generation and the load on the drive electronics.

6. Reviewing the efficiency figures in Exhibit 2, it can be seen that the maximum luminous efficiency for the composition of the invention (comprising a blend of dendrimers G1 and G2) is twice that of the first generation dendrimer alone (Comparative Example 1) and is 50% higher than the second generation dendrimer alone (Comparative Example 2). In my view this demonstrates a substantial efficiency advantage for compositions according to the invention.

7. Exhibit 2 also shows that the power efficiency of the composition of the invention is around 2-3 times higher than that of the Comparative Examples. This power efficiency (measured in lm/W) refers to the light emitted divided by the electrical power in, and therefore takes account of the slightly higher drive voltage for the comparative examples. Again, this demonstrates that the compositions of the invention provide a major efficiency advantages compared with prior art compositions.

8. In my view the data show that there are clear and significant improvements in efficiency when compositions of the invention are used compared with prior art compositions. I believe, therefore, that the invention solves the problem of providing organic light emitting devices with improved efficiency and potentially lifetime. In my opinion these results could not have been predicted in view of the prior art; they were therefore surprising and unexpected results.

9. All statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and further these statements are made with the knowledge that wilful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such wilful false statements may jeopardize the validity of this declaration, the patent application, or any patents issuing thereon.

Signed

Professor Paul L. Burn

This Ninth Day of July 2009.

In re Application of: Paul L. Burn et al

Serial No. 10/525,616

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For: BLENDED DENDRIMERS

EXHIBIT 1

Signed

Professor Paul L. Burn

This Ninth Day of July 2009.

Exhibit 1

List of Publications by Paul L. Burn in the field of polymers and dendrimers and their use in opto-electronic device applications

N. F. Colaneri, D. D. C. Bradley, R. H. Friend, P. L. Burn, A. B. Holmes, C. W. Spangler, "Photoexcited states in poly(*p*-phenylenevinylene): comparison with *trans, trans*-distyrylbenzene, a model oligmer", **Phys. Rev. B**, 1990, **42**, 670-681.

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For: BLENDED DENDRIMERS

EXHIBIT 2

Signed

Professor Paul L. Burn

This Ninth Day of July 2009.

Exhibit 2

	Example	Comparative Example 1	Comparative Example 2
Max. luminous efficiency (cd/A)	35 - 39	17	23
Power efficiency (lm/W)	4-6V: 20-25	7.5V: 8	6V: 12
Brightness (cd/m2)	6V: 38	6V: 184-198	6V: 80
Max. observed brightness	12V: 4000	12V: 16000	10V: 1000